

Pievox Information

Which mag flux should I choose

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The standard question is:

Hello

I'm looking for calibration tapes for my a80rc. Manual says that it should be calibrated for 1.55v . Which flux tape I should get ?

Regards

This factors must be taken into consideration.

We have to live with the tape material how it is.

The limits are: **Noise** in in the low end and **distortion** on the upper end of the modulation.

For devices with Dolby the thing is simple: 185nWb/m at 700Hz is mandatory.

For all other it is valid:

The choice of the recording mag flux level is an compromise between this limits.

It depends on some topics that have to be considered:

First - from the tape material to be used, SM911 has more headroom compared with LPR 35.

Second - considering your personal decision about the question between noise and distortion.

A higher mag flux level produces more distortion in the peaks.

Third - from what you want to record, the question of necessary headroom.

Is it original performances with unknown peaks or pre-recorded materials like from CD, radio, LP records?

The 514 nWb/m level is only practicable for ready mixed tapes and for the purpose to feed an transmitter.

The historical reason to introduce the 514nWb/m level was in conjunction with butterfly heads to meet the correct playback level from a mono tape player to feed a mono AM transmitter from a stereo tape.

And last but not least from the metering used.

If a VU meter is used for modulation, then 6-8dB peaks in the signal are not visible.

You have to work with headroom and luck.

Or you measure with a PPM Meter, then all peaks are registered and you can record close to the limit.

Summary:

In my opinion the 320 nWb/m ref mag flux is a good compromise in IEC EQ for recordings for pleasure in home environment, also on studio tapes like SM468 and SM911.

For NAB recorders the 250nWb/m mag flux level is recommended, since a low frequency boost takes place at NAB which is not visible on the VU meter, thus leading to the saturate the tape in the peaks and produce intermodulation distortion

The use of an certain mag flux level (e.g. 250nWb/m) is only mandatory if you work with this tape recorder in an studio environment or to feed an radio transmitter or cutting lathe.